COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT D

Verdura Property
San Gregorio, CA
Biotic Assessment
APN 041-121-03

Presented To
Verdura Construction
PO Box 519
Half Moon Bay, CA 94019

Prepared By
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Santa Cruz, CA 95062

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INTRODUCTION

Proposed Project and Location

The applicant proposes to build a single family residence and associated infrastructure on an 8 acre parcel on an unnamed private road off of La Honda Rd (California State Highway 84) in an unincorporated section of San Mateo County, CA. Figure 1 provides a map of the project location. Figure 2 provides a conceptual development plan that has been developed for the project.

APN: 041-121-03

Site Description

The majority of the site is slightly sloping in an east to west direction. A steep slope occurs on and adjacent to the western boundary of the parcel, that leads to an intermittent stream. The local neighborhood is rural in character, with both adjacent parcels having a house on them.

METHODS

Prior to conducting field studies, a background literature search was conducted to determine which special-status plant and wildlife species have potential to inhabit the study area based on documented occurrences, range distribution and suitable habitat. The primary sources for this search included the California Natural Diversity Data Base (CNDDB) and the United States Fish and Wildlife Service (USFWS) records for San Mateo County (CDFW 2018a; USFWS 2018a). Additionally, the USFWS Critical Habitat portal was accessed (USFWS 2018b).

The Special Animals List and the Special Plant List maintained by the CDFW was used to determine the current regulatory status for each special-status species known from the region (CDFW 2017a, CDFW 2017). Locality records from eBird, an online database of bird distribution, were reviewed (eBird 2018; Sullivan, et al. 2009).

The initial list was refined to remove species that are documented in the general region but are not expected to occur on the study area due to range limitation or extirpation, or due to a lack of suitable habitats from the study area. The suitability of the site for special-status plants and vertebrates was assessed based on known habitat requirements for each species, the habitats present on the site and surrounding lands beyond the study area, regional locality records, and knowledge of the target species.

For purposes of this assessment, special-status species are defined to include the following: species listed by the USFWS as Threatened or Endangered; species for which USFWS has sufficient information to list as Endangered or Threatened but listing is precluded (Candidate Species); those species for which a proposed rule to list as Endangered or Threatened has been published by USFWS (Proposed species); species listed by USFWS as Birds of Conservation Concern (in Region 32); species listed by the California Fish and Game Commission as Threatened or Endangered and those species that are Candidates for listing as Threatened or Endangered; species designated by the CDFW as Species of Special Concern; and species listed as "fully protected" in the California Fish and Game Code.

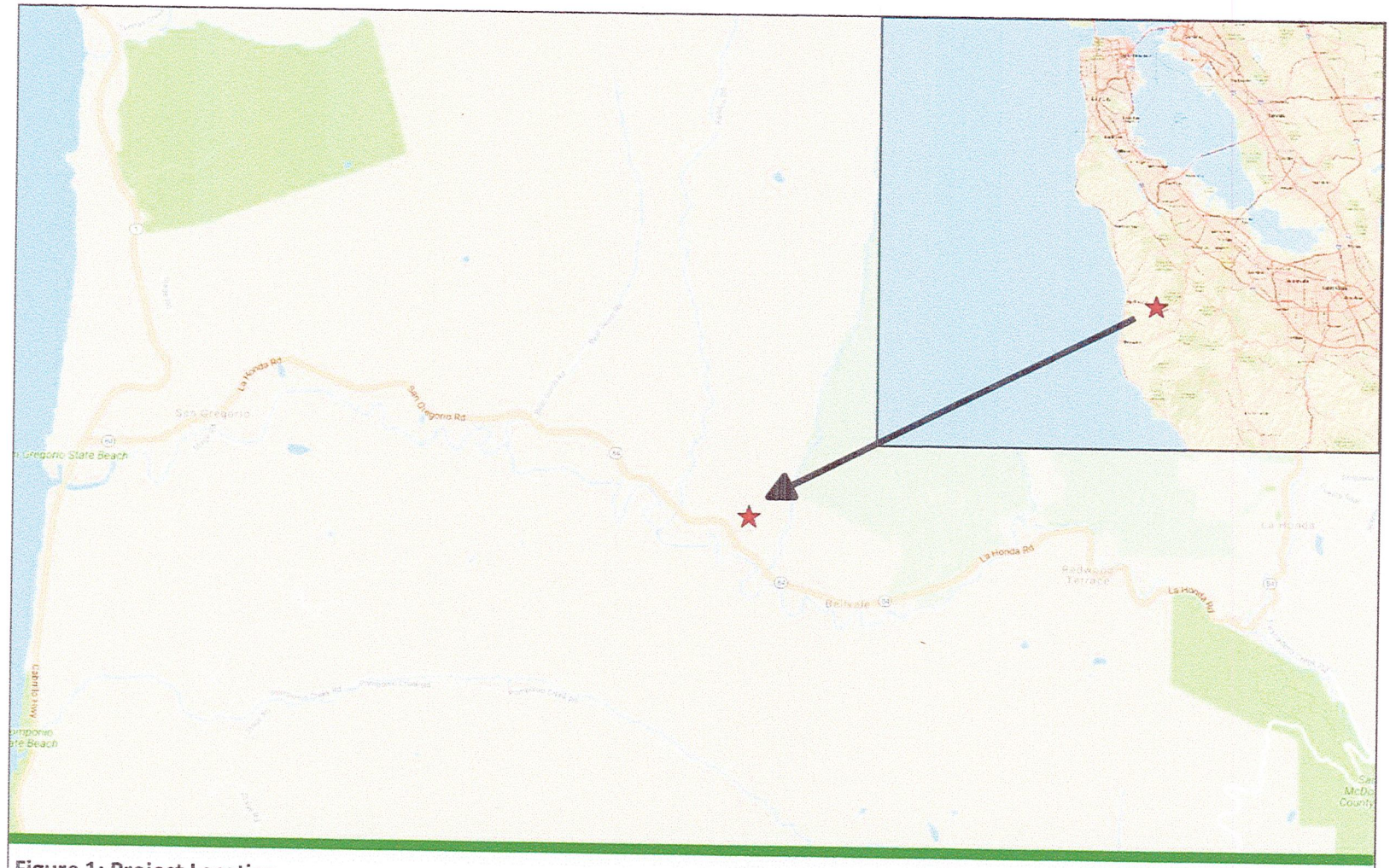

Figure 1: Project Location
San Mateo County, California (APN: 082-160-130)

Data Source: ESRI Standard

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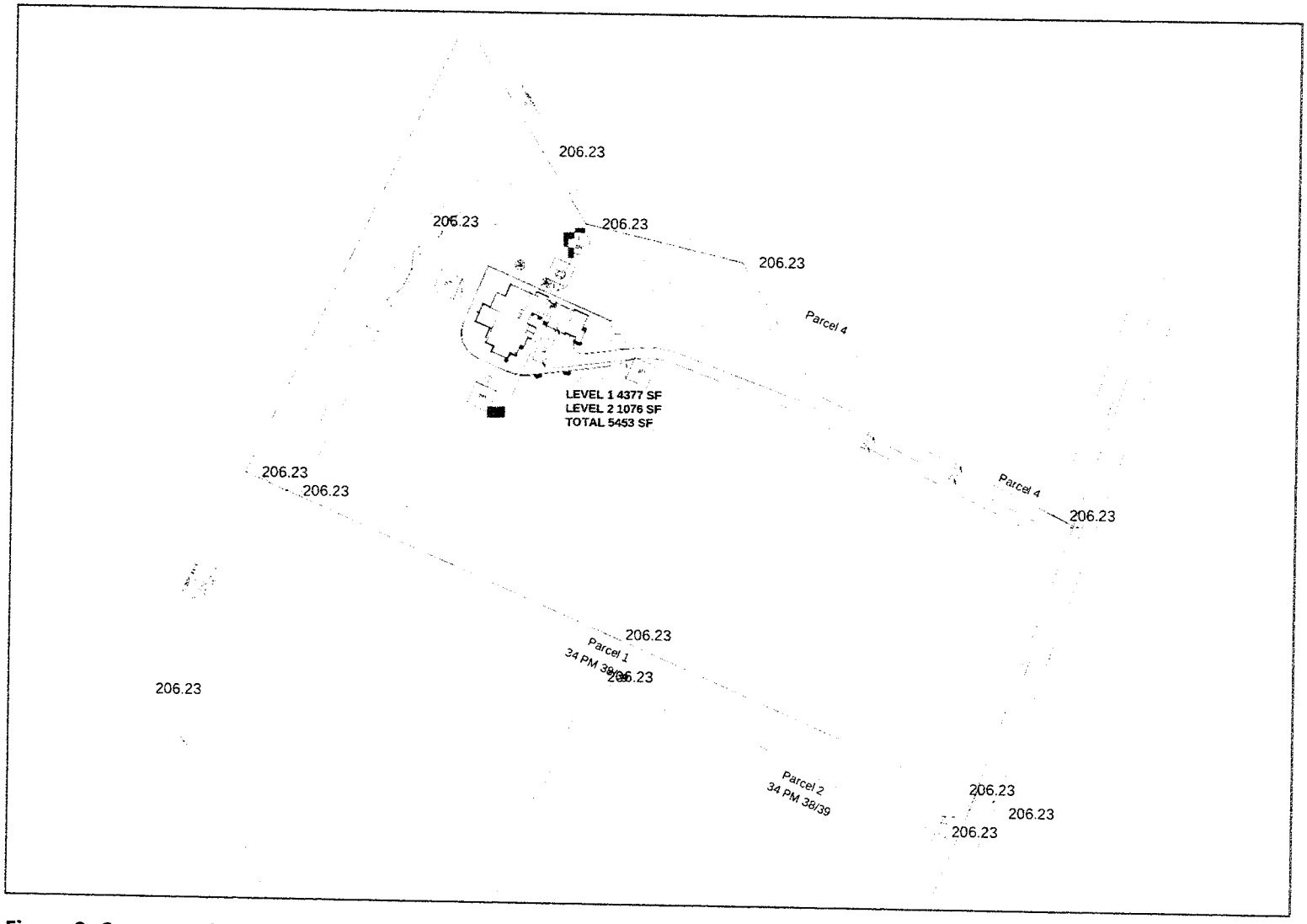

Figure 2: Conceptual Site Plan (Not to Scale)

In addition, certain animals and plants that meet the criteria for endangered, threatened or rare species included in Section 15830 of the CEQA Guidelines were also considered. This includes those species listed as Medium and High Priority by the Western Bat Working Group (WBWG), those listed as Rare Plant Ranking 1A (Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere) 1B (Plants Rare, Threatened, or Endangered in California and Elsewhere), 2A (Plants Presumed Extirpated in California, But Common Elsewhere), and 2B (Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere) by the California Native Plant Society (CNPS), and those considered locally rare by the San Mateo Chapter of CNPS.

The study area included the entire parcel. The boundaries of the Study Area are provided in Figure 3.

Joe Rigney from Toyon Consultants visited the site on January 18 and February 1, 2018 in order to evaluate the impacts to habitat, and rare, sensitive, and endangered species that potentially occur on the site. All field gathered GPS data and photos were taken during these visits.

All plant species names are consistent with the Second Edition Jepson Manual (Baldwin *et. al.* 2012). Additional resources used for plant identification include the CalFlora database (CalFlora 2018), and the Jepson Manual eFlora (Jepson Flora Project 2018).

GPS data was collected using a Trimble GeoXT field unit at submeter accuracy. All data was collected in WGS 1984 reference. Data was entered into QGIS software for spatial analysis.

Two features (*Baccharis* scrub and the Creek location – See Figure 4 below) were drawn on the map based on aerial photo features. The conceptual site map (Figure 2) was georeferenced and overlaid onto the aerial photo. The Development Area was then drawn based on the location provided by the georeferenced plan sheet (See Figure 8 below).

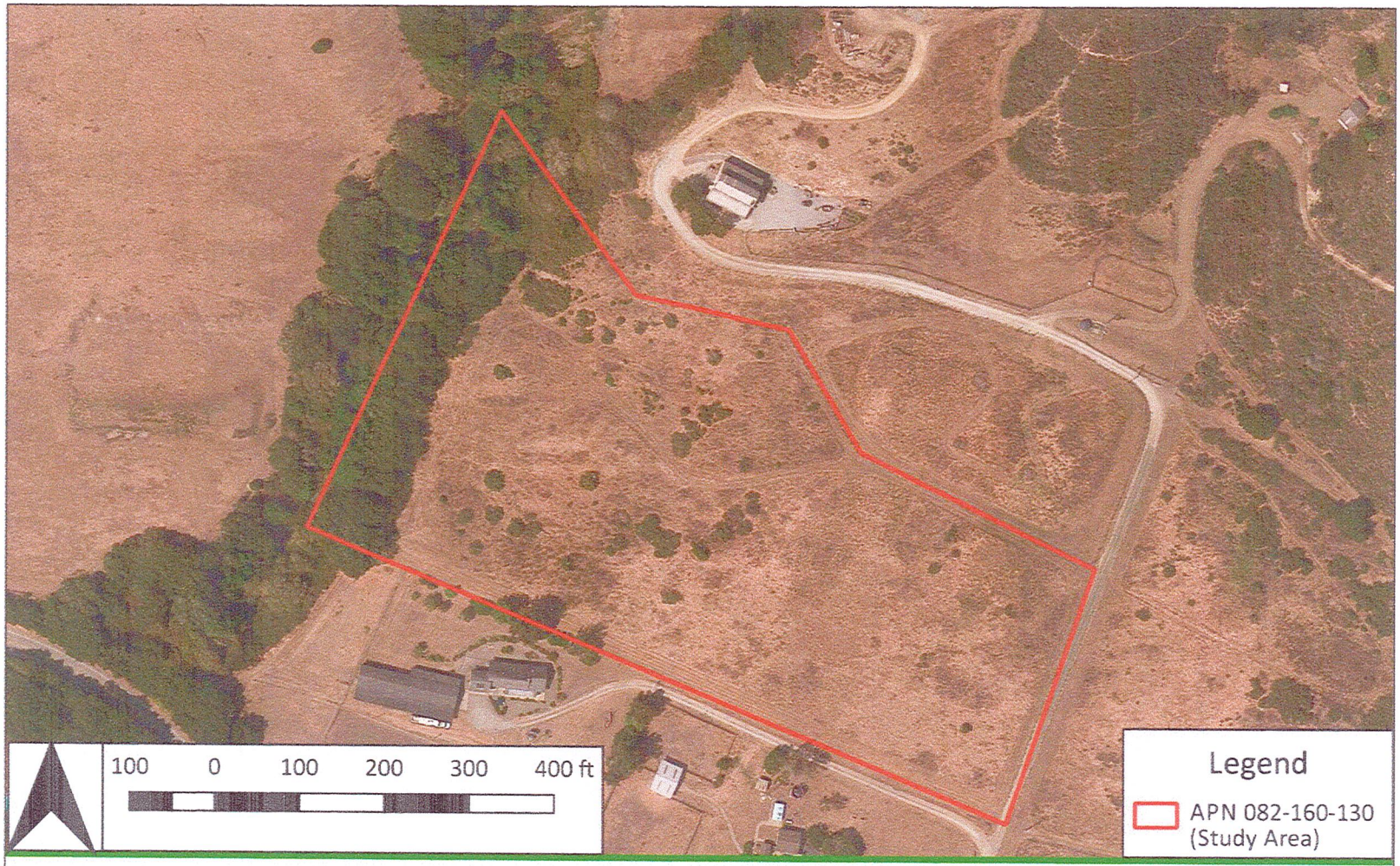

Figure 3: Study Area over Aerial Photo
San Mateo County, California

Data Source: Google Satellite, San Mateo County APN

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RESULTS

Habitat Areas

Several habitat areas were observed on the site, based on vegetation features, as indicated in Table 1. A discussion of specifics of these areas is provided below. Figure 4 shows habitat locations observed within the study area.

An intermittent creek was observed within the Oak Woodland habitat, as shown on Figure 4. There was no riparian or emergent wetland habitat associated with this creek (See discussion of Oak Woodland habitat below).

Additionally, Figure 4 includes the locations of wood rat (*Neotoma fuscipes annectens*) nests found within the study area. See Wildlife below for more information.

Table 1: Dominant Species within Habitat Areas

Habitat Area	Acres	Associated Species
Baccharis Scrub	0.31	*Baccharis pilularis, Rubus ursinus*
Coastal Scrub	0.28	*Baccharis pilularis, Artemisia californica*
Non-native Grassland	6.38	*Helminthotheca echioides, Dipsacus sativus,* unidentified non-native annual grass(es)
Oak Woodland	0.99	*Quercus agrifolia*

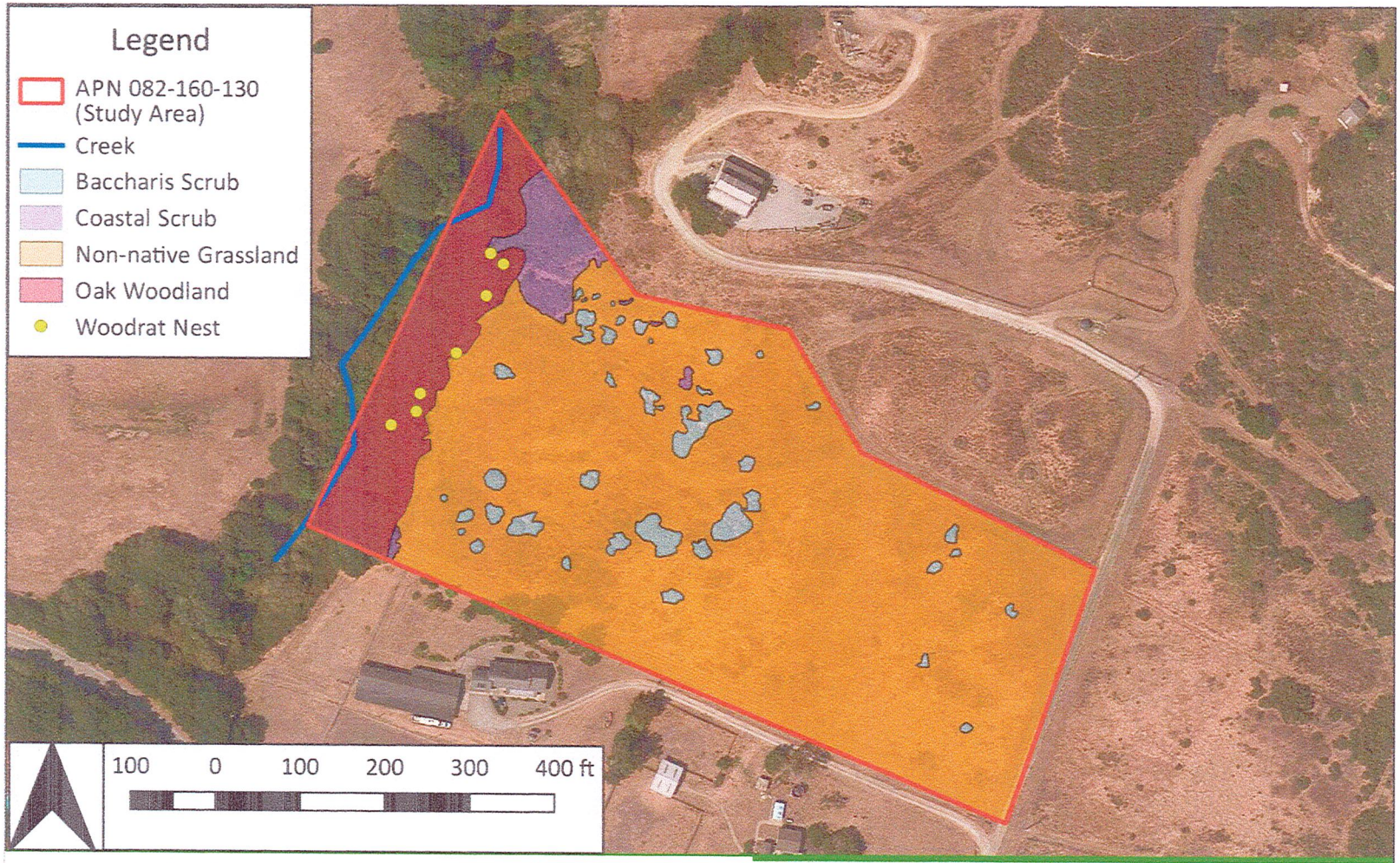

Figure 4: Habitats Observed in Study Area
Santa Mateo County, California

Data source: USGS Topography, San Mateo County APN, Toyon Consultants

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Baccharis Scrub

Several patched of scrub habitat dominated by *Baccharis pilularis (coyote bush)* are scattered throughout the site. These areas are devoid of most other species, though *Rubes ursinus* (California blackberry) was occasionally observed in the understory.

Photo 1: Baccharis Scrub (typical)

Coastal Scrub

A few small patches of Coastal Scrub dominated by *Artemisia californica* (California sage) are scattered on the hillside on the north-western portion of the study area. A large patch, dominated by *B. pilularis* and *A. californica* occurs near the north-west corner, while another small patch grows along the edge of the oak woodland on the south-west. Other typical species observed include *Quercus agrifolia* (coast live oak), *Mimulus aurantiacus* (sticky monkey flower), *R. ursinus*, and needlegrass (*Stipa* sp.).

Photo 2: Coastal Scrub dominated by *Artemisia californica*

Non-native Grassland

Due to the timing of the botanical survey, it was impossible to identify many species growing within the non-native grassland area. However, sufficient evidence existed to determine that dominant species included non-native annul grasses, *Helminthotheca echioides* (bristly ox-tongue), and *Dipsacus sativus* (Fuller's teasel). No native bunch grasses were observed in the grassland areas. Active burrowing mammal holes were observed throughout the site.

Photo 3: Non-native grassland dominated by non-native annual grasses

Photo 4: Non-native grassland dominated by *H. echiodes* and *D. sativus*.

Photo 5: Burrowing mammal activity in non-native grassland

Oak Woodland

The western edge of the study area is covered in oak woodland habitat, dominated by *Quercus agrifolia* (coast live oak), with an understory dominated by *R. californica.*

An intermittent stream consisting of a deeply incised channel with no evident pool formation or emergent vegetation runs through the oak woodland, partially inside of and partially outside of the study area. No riparian vegetation was observed along the creek.

Seven *Neotoma fuscipes annectens* (San Francisco dusky-footed woodrat) nests were observed in the oak woodland, including one in a tree.

Photo 6: Oak woodland edge along non-native grassland

Photo 7: Intermittent creek

Photo 8: Intermittent creek

Photo 9: Woodrat nest

Vegetation

Table 2 lists all plants species identified on the site. Due to the timing of the plant survey, several species, particularly herbaceous species found within the non-native grassland species, could not be identified. It is expected that a spring survey would include several additional species not included in Table 2.

Figure 5 provides an aerial image showing the locations of all known rare and sensitive plants within a 10 mile radius of the study area, as found in the CNDDB (CDFW 2017a). Table 3 provides a listing of all of these species, including the likely potential that the plants are found onsite.

Twenty-nine plant species were considered based on the CNDDB listings. Of these, five are considered as potentially present onsite.

Although listed as 1B.2 in the CNDDB, as of 11/12/2017 *California macrophylla* (Round-leaved filaree) is no longer considered rare by CNPS (CNPS 2018). This species is therefore not considered further in this report.

The remaining four species potentially onsite are discussed in further detail below.

Fritillaria liliacea (fragrant fritillary)
BLM-Sensitive, CNPS 1B.2
This plant has a bloom period of February to April (CalFlora 2018). It grows on adobe or clay-rich soils in coastal prairie or native bunchgrass grasslands, frequently on serpentine-derived soils. (CNPS 2018, ESCTP 2006, Wood 1999)

The CNDDB notes one known population within ten miles of the project location, in Redwood City. It is noted that this is a serpentine soil area.

This plant is considered to be absent on the project site due to the lack of serpentine soils and the lack of coastal prairie or native bunchgrass grasslands occurring on the site. Therefore, no impacts will occur to the species.

Monolopia gracilens (Woodland Woollythreads)
CNPS 1B.2
This annual herb blooms from March to July, and is found in serpentine grasslands and openings in chaparral and oak woodlands (CalFlora 2018, CNPS 2018).

Although unlikely to occur due to its slight affinity to serpentine soils, this plant may occur in the oak woodland habitat. Since no work is proposed to occur within the oak woodland, there will be no impacts to this species (See IMPACT ANALYSIS below).

Table 2: Plant species observed in project area			
Family	**Species Name**	**Common Name**	**Native**
Pteridaceae	*Adiantum jordanii*	California Maidenhair Fern	y
Sapindaceae	*Aesculus californica*	Buckeye	y
Ranunculaceae	*Aquilegia* sp.	Columbine	y
Asteraceae	*Artemisia californica*	Coast sagebrush	y
Asteraceae	*Artemisia douglasiana*	Mugwort	y
Poaceae	*Avena barbata*	Slender Wild Oat	n
Asteraceae	*Baccharis pilularis* ssp. *pilularis*	Coyote brush, chaparral broom	y
Rhamnaceae	*Ceanothus thyrsiflorus* var. *thyrsiflorus*	Blue blossom	y
Liliaceae	*Chlorogalum pomeridianum*	Soap plant, Amole	y
Asteraceae	*Cirsium vulgare*	Bull Thistle	n
Apiaceae	*Conium maculatum*	Poison hemlock	n
Cyperaceae	*Cyperus eragrostis*	Tall Cyperus	y
Dipsacaceae	*Dipsacus sativus*	Fuller's Teasel	n
Dryopteridaceae	*Dryopteris arguta*	Wood Fern	y
Poaceae	*Festuca* sp.	Annual Fescue	?
Geraniaceae	*Geranium* sp.	Geranium	n
Asteraceae	*Helminthotheca echioides*	Bristly Ox-tongue	n
Juncaceae	*Juncus patens*	Spreading Rush	y
Phrymaceae	*Mimulus aurantiacus*	Sticky Monkey Flower	y
Poaceae	*Phalaris aquatica*	Harding Grass	n
Dryopteridaceae	*Polystichum imbricans*	Narrowleaf Sword Fern	y
Fagaceae	*Quercus agrifolia*	Coast Live Oak	y
Brassicaceae	*Raphanus sativus*	Wild Radish	n
Grossulariaceae	*Ribes* sp.	Gooseberry	y
Rosaceae	*Rubus ursinus*	California blackberry	y
Polygonaceae	*Rumex occidentlis*	Western Dock	y
Apiaceae	*Sanicula* sp.	Sanicula	y
Asteraceae	*Senecio* sp.	Ragwort	n
Asteraceae	*Silybum marianum*	Milk Thistle	n
Lamiaceae	*Stachys* sp.	Hedge Nettle	y
Poaceae	*Stipa* sp.	Needlegrass	y
Anacardiaceae	*Toxicodendron diversilobum*	Poison Oak	y
Fabaceae	*Trifolium* sp.	Non-native Clover	n
Lauraceae	*Umbellularia californica*	California Bay Laural	y

Table 3: Sensitive Plant Species Found within a ten-mile radius of proposed project, as found in the CNDDB			
Scientific Name	**Common Name**	**Status***	**Potential Presence Onsite**
Allium peninsulare var. *franciscanum*	Franciscan onion	1B.2	Not present, no habitat onsite (serpentine soils)
Arctostaphylos andersonii	Anderson's manzanita	1B.2	Not present, no habitat onsite (maritime chaparral)
Arctostaphylos regismontana	Kings Mountain manzanita	1B.2	Not present, no habitat onsite (maritime chaparral)
Astragalus pycnostachyus var. *pycnostachyus*	coastal marsh milk-vetch	1B.2, BLM-S	Not present, no habitat onsite (wetland)
California macrophylla	round-leaved filaree	1B.2, BLM-S	Potentially present
Cirsium fontinale var. *fontinale*	Crystal Springs fountain thistle	FE, CE, 1B.1	Not present, no habitat onsite (wetland)
Dirca occidentalis	western leatherwood	1B.2	Not present, none observed
Eriophyllum latilobum	San Mateo woolly sunflower	FE, CE, 1B.1	Not present, no habitat onsite (serpentine soils)
Eryngium jepsonii	Jepson's coyote-thistle	1B.2	Not present, no habitat onsite (vernal pool)
Fissidens pauperculus	minute pocket moss	1B.2, USFS-S	Not present, none observed
Fritillaria liliacea	fragrant fritillary	1B.2, USFS-S	Potentially present
Grimmia torenii	Toren's grimmia	1B.3	Not present, none observed
Grimmia vaginulata	vaginulate grimmia	1B.1	Not present, none observed
Hesperocyparis abramsiana var. *butanoensis*	Butano Ridge cypress	FT, CE, 1B.2	Not present, none observed
Hesperolinon congestum	Marin western flax	FT, CT, 1B.1	Not present, no habitat onsite (serpentine soils)
Lasthenia californica ssp. *macrantha*	perennial goldfields	1B.2	Not present, none observed
Legenere limosa	legenere	1B.1, BLM-S	Not present, no habitat onsite (vernal pool)
Leptosiphon rosaceus	rose leptosiphon	1B.1	Not present, no habitat onsite (coastal grassland)
Limnanthes douglasii ssp. *sulphurea*	Point Reyes meadowfoam	CE, 1B.2	Not present, no habitat onsite (wetland)
Malacothamnus arcuatus	arcuate bush-mallow	1B.2	Not present, no habitat onsite (maritime chaparral)

*** Status Definitions**

FEDERAL
FE = Listed as "Endangered"
FT = Listed as "Threatened"
BLM-S = Listed as "Sensitive" by the Bureau of Land Management
USFS-S = Listed as "Sensitive" by the Forest Service

STATE
CE = Listed as "Endangered"
CT = Listed as "Threatened"

OTHER
CNPS RANK
1B = Rare, threatened, or endangered in California and elsewhere
2B = Rare, threatened, or endangered in California, common elsewhere
THREAT 0.1 = Seriously threatened in California
THREAT 0.2 = Fairly threatened in California
THREAT 0.3 = Not very threatened in California

Table 3: Sensitive Plant Species Found within a ten-mile radius of proposed project, as found in the CNDDB			
Scientific Name	**Common Name**	**Status***	**Potential Presence Onsite**
Microseris paludosa	marsh microseris	1B.2	Not present, no habitat onsite (wetland)
Monolopia gracilens	woodland woollythreads	1B.2	Potentially present
Orthotrichum kellmanii	Kellman's bristle moss	1B.2, USFS-S	Not present, none observed
Pedicularis dudleyi	Dudley's lousewort	1B.2, USFS-S	Not present, no habitat onsite (riparian redwood forest)
Piperia candida	white-flowered rein orchid	1B.2, BLM-S	Not present, no habitat onsite (coniferous forest)
Plagiobothrys chorisianus var. *chorisianus*	Choris' popcornflower	1B.2	Not present, no habitat onsite (vernal pool)
Senecio aphanactis	chaparral ragwort	2B.2	Potentially present
Trifolium amoenum	two-fork clover	FE, 1B.1	Not present, no habitat onsite (wetland)
Trifolium buckwestiorum	Santa Cruz clover	1B.1, BLM-S	Potentially present

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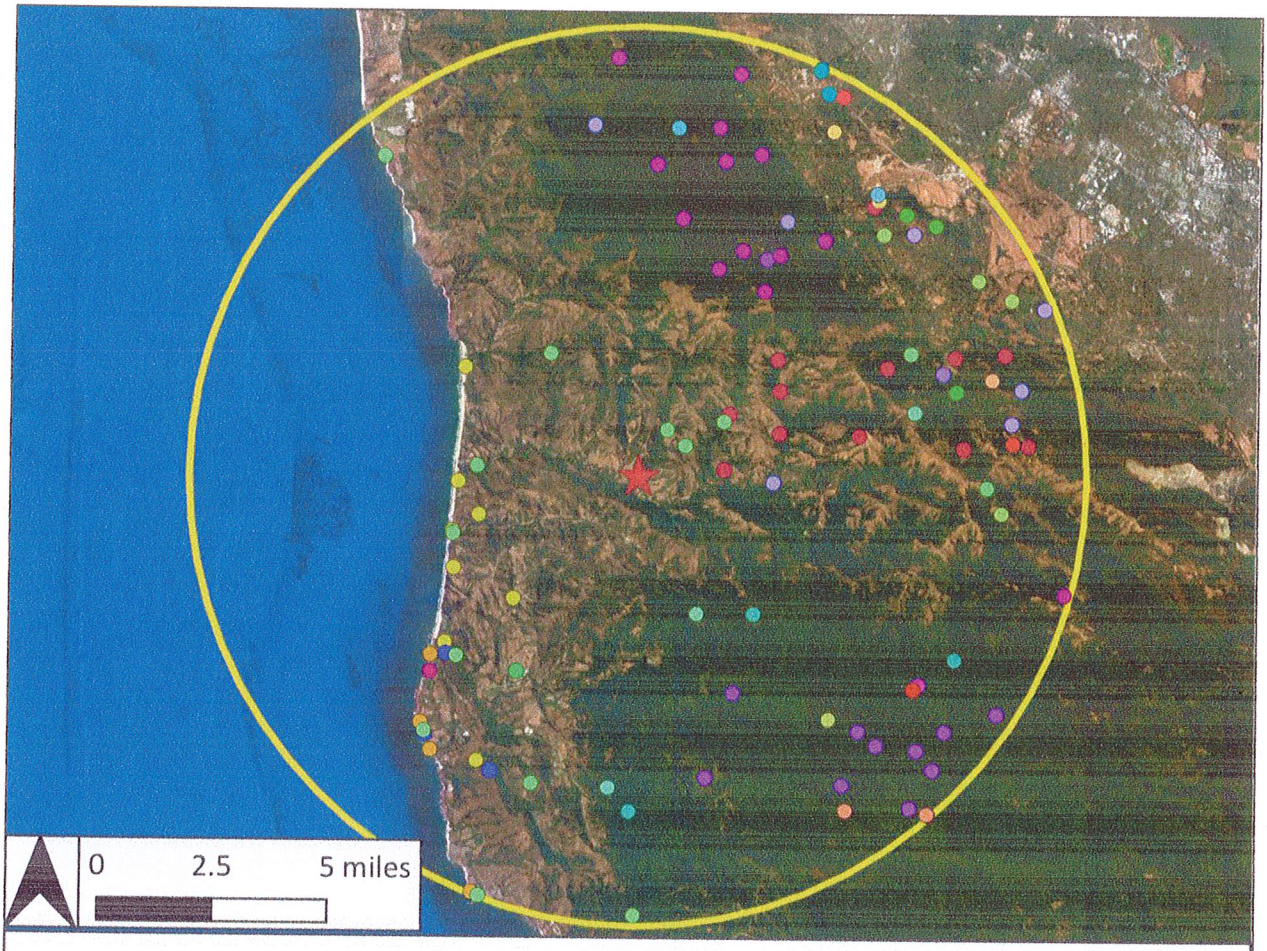

Legend

- 10 Mile Radius
- Allium peninsulare var. franciscanum
- Arctostaphylos andersonii
- Arctostaphylos regismontana
- Astragalus pycnostachyus var. pycnostachyus
- California macrophylla
- Cirsium fontinale var. fontinale
- Dirca occidentalis
- Eriophyllum latilobum
- Eryngium jepsonii
- Fissidens pauperculus
- Fritillaria liliacea
- Grimmia torenii
- Grimmia vaginulata
- Hesperocyparis abramsiana var. butanoensis
- Hesperolinon congestum
- Lasthenia californica ssp. macrantha
- Legenere limosa
- Leptosiphon rosaceus
- Limnanthes douglasii ssp. sulphurea
- Malacothamnus arcuatus
- Microseris paludosa
- Monolopia gracilens
- Orthotrichum kellmanii
- Pedicularis dudleyi
- Piperia candida
- Plagiobothrys chorisianus var. chorisianus
- Senecio aphanactis
- Trifolium amoenum
- Trifolium buckwestiorum
- Usnea longissima

Figure 5: Sensitive Plants within a Ten Mile Radius (CNDDB 2018)
Verdura Property, San Gregorio, San Mateo County, California (APN: 041-121-03)

Data Source: Google Sattelite, California Natural Diversity Database (Jan 2018)

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Senecio aphanactis (Chaparral Ragwort)
CNPS 2B.2
This species blooms from March to July (CalFlora 2018). It is found in chaparral and sage scrub, in alkaline flats and rocky areas (Jepson Flora Project 2018, CNPS 2018).

One population is found in the CNDDB, described in 1974 from a collection made approximately five miles from Palo Alto on the east side of the mountain range.

Even though potential habitat does occur on the site (sage scrub), because the site neither has alkaline nor rocky soil conditions, this species is considered absent. Therefore no impacts are expected to this species.

Trifolium buckwestiorum (Santa Cruz Clover)
CNPS 1B.1
This plant has a long blooming period, typically from April to October, depending on local conditions (CalFlora 2018, CNPS 2018). *T. buckwestorium* grows in a number of habitats, including vernally moist swales to saturated, clay-rich upland soils in coastal prairie, gravelly margins, vernally moist dune hollows, and edges of humic-soil meadow openings in forest (CNPS 2018, ECSTP 2006).

The CNDDB indicates that one population occurs within a ten mile radius of the project location, at "Coal Mine Ridge," described in 1996. While it is possible that the plant occurs on the project site, it is highly unlikely because the soil conditions do not provide sufficient wetland features, nor are there gravely openings in the habitat areas. Therefore no impacts are expected to this species.

Wildlife

Three animal species were identified during the site visits:

- *Odocoileus hemionus columbianus* (Black-tailed Deer)
- *Lynx rufus* (Bobcat)
- *Callipepla californica* (California Quail)

Thirty-five special-status wildlife species were analyzed for their potential occurrence because they: (1) occur in habitats present in the general vicinity, and (2) have ranges that include the study area (Table 4 below). Twenty-eight special-status wildlife species were documented in the CNDDB within ten miles of the study area, as indicated in Figure 8 (CDFW 2018a). An additional seven species of nesting birds were found near San Gregorio in the eBird database that are listed in the CDFW *Special Animals List* (eBird 2018, CDFW 2017). The study area is located within designated critical habitat for the federally listed species *Rana draytonii* (California red-legged frog) (USFWS 2018b).

One special status species, *Neotoma fuscipes annectens* (San Francisco dusky-footed woodrat) was observed. As indicated on Figure 4, seven nests for this mammal were observed in the oak woodland habitat.

Ten special status wildlife species are considered potentially present based on the habitat observed on the project site. Of these, the following are only expected to occur within the oak woodland habitat:

- *Antrozous pallidus* (pallid bat)
- *Corynorhinus townsendii* (Townsend's big-eared bat)
- *Lasiurus cinereus* (hoary bat)
- *Danaus plexippus* (monarch butterfly)

While the oak woodland habitat area was included within the study area, no work is proposed in this habitat, and so no impacts to species will occur (See IMPACT ANALYSIS below). Therefore, no further analysis is necessary for these species within this report.

Seven sensitive animal species either occur or have the potential to occur within the habitat areas of the proposed project, as follows:

- *Neotoma fuscipes annectens* (San Francisco dusky-footed woodrat)
- *Accipiter cooperii* (Cooper's hawk)
- *Asio otus* (long-eared owl)
- *Circus cyaneus* (northern harrier)
- *Elanus leucurus* (white-tailed kite)
- *Haliaeetus leucocephalus* (bald eagle)
- *Rana draytonii* (California red-legged frog)

These species are analyzed below. The remaining special-status wildlife species were considered absent or to have a low potential to inhabit the study area and are not discussed further (Table 4).

Table 4:Sensitive Animal Species Potentially found within 10 Miles			
Scientific Name	**Common Name**	**Listing Status***	**Potential Presence Onsite**
		MAMMALS	
Antrozous pallidus	pallid bat	FSC, SSC, WBWG-H	Potentially present in oak woodland
Corynorhinus townsendii	Townsend's big-eared bat	FSC, SSC, WBWG-H	Potentially present in oak woodland
Dipodomys venustus	Santa Cruz kangaroo rat	SSC	Not present – no habitat onsite (sand parkland)
Lasiurus cinereus	hoary bat	WBWG-M	Potentially present in oak woodland
Neotoma fuscipes annectens	San Francisco dusky-footed woodrat	SSC	Present (nests observed in oak woodland)
		BIRDS	
Accipiter cooperii	Cooper's hawk	WL	Potentially present, nests in oak woodland
Agelaius tricolor	tricolored blackbird	CC, SSC, BCC, NABCI	Not present – no habitat onsite (marsh)
Ammodramus savannarum	grasshopper sparrow	SSC	Potentially present, nests in grasslands
Ardea herodias	great blue heron	CDF-S	Not present – no habitat onsite (marsh)
Asio otus	long-eared owl	SSC	Potentially present, nests in oak woodland
Brachyramphus marmoratus	marbled murrelet	FT, CE, CDF-S, NABCI	Not present – no habitat onsite (old-growth redwood)
Charadrius alexandrinus nivosus	western snowy plover	FT, SSC, NABCI	Not present – no habitat onsite (sand dunes)
Circus cyaneus	northern harrier	SSC	Potentially present, occasionally nests in grassland
Contopus cooperi	olive-sided flycatcher	SSC, BCC, NABCI	Not present – no habitat onsite (coniferous forest, eucalyptus))
Elanus leucurus	white-tailed kite	FP, FSC	Potentially present, nests in oak woodland

***LISTING CODES**

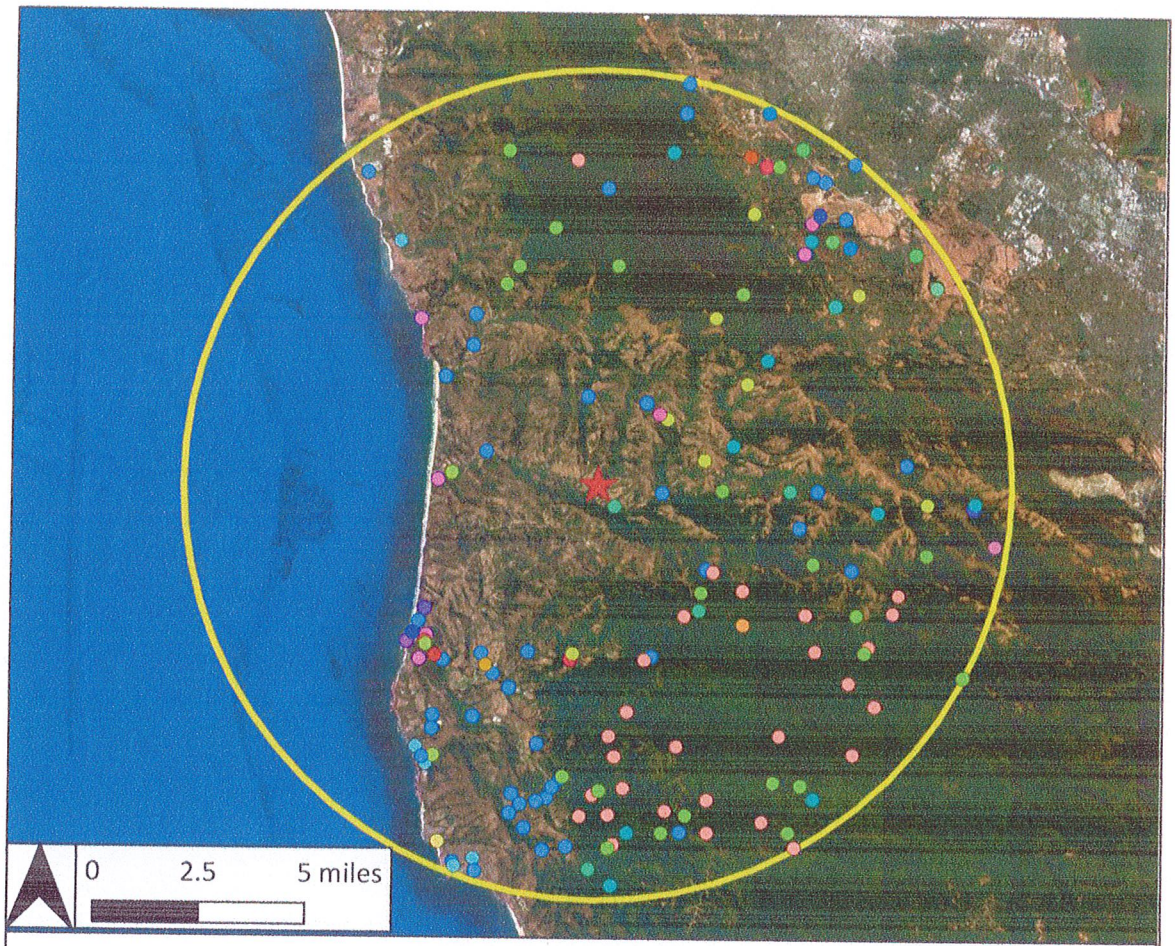
Federal
FE = Federal Endangered
FT = Federal Threatened
FSC = Federal Species of Concern
BCC = USFWS Bird of Conservation Concern

State
FP = Fully Protected
CE = California Endangered
CT = California Threatened
CC= California Candidate
CDF-S = Sensitive by the Ca. Dept. of Forestry
SSC = Species of Special Concern
WL = CDFW Watchlist

Other
WBWG = Western Bat Working Group
H = High Priority; M = Medium Priority
NABCI = North American Bird Conservation Initiative Red Watch List
AFS = American Fisheries Society
T = Threatened; E = Endangered

Table 4:Sensitive Animal Species Potentially found within 10 Miles			
Scientific Name	**Common Name**	**Listing Status***	**Potential Presence Onsite**
		BIRDS	
Falco peregrinus anatum	American peregrine falcon	FP, BCC, CDF-S	Not present – no nesting habitat onsite (cliffs)
Geothlypis trichas sinuosa	saltmarsh common yellowthroat	SSC, BCC	Not present – no habitat onsite (marsh)
Haliaeetus leucocephalus	bald eagle	FP, CE, BCC, FSC, CDF-S	Potentially present
Riparia	bank swallow	CT, FSC	Not present – no nesting habitat onsite (banks, rivers or ponds)
		REPTILES	
Emys marmorata	western pond turtle	SSC, FSC	Not present – no breeding habitat onsite
		AMPHIBIANS	
Ambystoma californiense	California tiger salamander	FT, CT, WL	Not present – no breeding habitat onsite
Aneides niger	Santa Cruz black salamander	SSC	Not present – no breeding habitat onsite
Dicamptodon ensatus	California giant salamander	SSC	Not present – no breeding habitat onsite
Rana boylii	foothill yellow-legged frog	SSC, FSC	Not present – no breeding habitat onsite
Rana draytonii	California red-legged frog	FT, SSC	Potentially present
Taricha rivularis	red-bellied newt	SSC	Not present – no breeding habitat onsite
		FISH	
Eucyclogobius newberryi	tidewater goby	FE, SSC, AFS-E	Not present – no habitat onsite (marsh)
Oncorhynchus mykiss irideus	steelhead	FT, AFS-T	Not present – no habitat onsite (year-round pools)
Spirinchus thaleichthys	longfin smelt	CT, AFS-T	Not present – no habitat onsite (bays and estuaries)
***LISTING CODES**			

Table 4:Sensitive Animal Species Potentially found within 10 Miles			
Scientific Name	**Common Name**	**Listing Status***	**Potential Presence Onsite**
Federal FE = Federal Endangered FT = Federal Threatened FSC = Federal Species of Concern BCC = USFWS Bird of Conservation Concern	**State** FP = Fully Protected CE = California Endangered CT = California Threatened CC= California Candidate CDF-S = Sensitive by the Ca. Dept. of Forestry SSC = Species of Special Concern WL = CDFW Watchlist		**Other** WBWG = Western Bat Working Group H = High Priority; M = Medium Priority NABCI = North American Bird Conservation Initiative Red Watch List AFS = American Fisheries Society T = Threatened; E = Endangered
	INVERTEBRATE		
Bombus caliginosus	obscure bumble bee	SSC	Not present – no nests observed
Bombus occidentalis	western bumble bee	FSC	Not present – no nests observed
Danaus plexippus	Monarch butterfly	FSC	Potentially present in oak woodland
Euphydryas editha bayensis	Bay checkerspot butterfly	FT	Not present – no habitat onsite (serpentine)
Speyeria zerene myrtleae	Myrtle's silverspot butterfly	FE	Not present – no larval plant onsite (*Viola adunca*)
Tryonia imitator	California brackishwater snail	SSC	Not present – no habitat onsite (marsh)
***LISTING CODES** **Federal** FE = Federal Endangered FT = Federal Threatened FSC = Federal Species of Concern BCC = USFWS Bird of Conservation Concern	**State** FP = Fully Protected CE = California Endangered CT = California Threatened CC= California Candidate CDF-S = Sensitive by the Ca. Dept. of Forestry SSC = Species of Special Concern WL = CDFW Watchlist		**Other** WBWG = Western Bat Working Group H = High Priority; M = Medium Priority NABCI = North American Bird Conservation Initiative Red Watch List AFS = American Fisheries Society T = Threatened; E = Endangered



Legend

- 10 Mile Radius
- Ambystoma californiense
- Aneides niger
- Antrozous pallidus
- Ardea herodias
- Asio otus
- Bombus caliginosus
- Bombus occidentalis
- Brachyramphus marmoratus
- Charadrius alexandrinus nivosus
- Corynorhinus townsendii
- Danaus plexippus
- Dicamptodon ensatus
- Dipodomys venustus venustus
- Emys marmorata
- Eucyclogobius newberryi
- Euphydryas editha bayensis
- Geothlypis trichas sinuosa
- Haliaeetus leucocephalus
- Lasiurus cinereus
- Neotoma fuscipes annectens
- Oncorhynchus mykiss irideus
- Rana boylii
- Rana draytonii
- Riparia riparia
- Speyeria zerene myrtleae
- Spirinchus thaleichthys
- Taricha rivularis
- Tryonia imitator

Figure 6: Sensitive Animals within a Ten Mile Radius (CNDDB 2018)
Verdura Property, San Gregorio, San Mateo County, California (APN: 041-121-03)

Data Source: Google Sattelite, California Natural Diversity Database (Jan 2018)

Toyon Consultants

Neotoma fuscipes annectens (San Francisco dusky-footed woodrat)
CDFW Species of Special Concern

The dusky footed woodrat is a medium sized rodent found throughout the San Francisco Bay Area in grassland, scrubland, and wooded areas (Hooper 1938, Hall 1981). Feeds mainly on woody plants, especially live oak, maple, coffeeberry, alder, and elderberry when available (Linsdale and Tevis 1951). The animal prefers moderate canopy in a variety of habitats, with live oaks and other thick-leaved trees and shrubs are important habitat components. (Kelly 1990, Williams et al. 1992). Large terrestrial stick houses are built of sticks and leaves at the base of, or in a tree, around a shrub, or at the base of a hill and can last for more than twenty years (English 1923, Linsdale and Tevis, 1951).

Although this species does occur within the study area, no impacts are expected to the oak woodland habitat where it lives (See IMPACT ANALYSIS below). While the species may on occasion move into the surrounding grasslands, the large distance between the edge of the oak woodland and the development envelope (approximately 70 ft – See Figure 8) makes it extremely unlikely that the animal would ever be found in the vicinity of the proposed work.

Therefore it is determined that no impacts are likely to occur to this animal from the proposed project.

Accipiter cooperii (Cooper's Hawk)
CDFW Watch List

Cooper's hawk is a medium sized raptor that ranges across North America (NGS 1983). Breeding typically occurs in mature broadleaf or coniferous forests from early April to June, with molting typically beginning in late June (Bent 1937, Brown and Amadon 1968). While some populations require large tracts of land, others have been observed using small woodlots and forest tracts, including within urban/suburban areas where the bird appears to be tolerant of human activities (Hennessy 1978, Herron et al. 1985, Campbell et al 1990, Peterjohn and Rice 1991, Rosenfield et al. 1991).

Although there are no records of Cooper's hawk in the CNDDB (CNDDB 2018), there are several sightings recorded in the eBird database within a ten miles of the project location, including one up nearby Bear Gulch Rd (eBird 2018).

The species could potentially nest in the oak woodland near the proposed project. Implementation of the project could disturb a nest if it were too close to the development, however it should be noted that no trees are proposed for removal. Cooper's hawk may use the grassland habitat as foraging habitat.

Asio otus (long-eared owl)
CDFW Species of Special Concern

The long-eared owl's favored habitat includes dense trees for nesting and roosting, and open country for hunting (Kaufman 1996).It uses a wide variety of habitat, including forest with extensive meadows, and groves of conifers or deciduous trees in prairie country. It generally avoids unbroken forest. The bird hunts mostly at night, sometimes before dusk, especially when feeding young (Kaufman 1996). It usually feeds heavily on common local rodents, which, depending on region, may be mostly voles, deer mice, kangaroo rats, pocket gophers, etc. It is also known to eat small birds, shrews, bats, lizards, snakes, other small creatures.

A single location for long-eared owls is noted in January of 1996 within ten miles of the project site in the CNDDB (CNDDB 2018). The record, from Monte Bello Open Space Preserve at the headwaters of Stevens Creek notes that this is the first confirmed breeding pair in Santa Clara County since the 1930's. Several additional sightings are noted in the eBird database (eBird 2018) within and nearby the Monte Bella Preserve, including one sighting in Russian Ridge Open Space Preserve in October of 2016. Additional sightings are noted at Pillar Point near Half Moon Bay, the most recent in 2005.

Due to the rarity of the species in the area, it is highly unlikely that it is found on the site. Therefore, no impacts are expected to occur to this species.

Circus cyaneus (Northern Harrier)
CDFW Species of Special Concern

Northern harriers are found mainly in open habitats such as fields, savannas, meadows, marshes, and upland prairies... They also occur in agricultural areas and riparian zones. The densest populations are found in large expanses of undisturbed, open habitats with dense, low vegetation. They avoid forested and mountainous areas. (Eastman, 1999; Macwhirter and Bildstein, 1996; Wheeler and Clark, 1987)

Harriers often nest in loose colonies of 15 to 20 individuals. The nest, built mostly by the female, is made out of sticks and padded on the inside with grass. The nest is built on the ground, often on raised mounds of dirt or clumps of vegetation. (Baicich and Harrison, 1997; Burton and Burton, 1989; Eastman, 1999; Terres, 1980; Wheeler and Clark, 1987)

Although there are no records of northern harriers in the CNDDB (CNDDB 2018), there are several sightings recorded in the eBird database within a ten miles of the project location, including one as recent as January 19, 2018 less than one mile away. (eBird 2018).

Northern harriers may use the grassland habitat as nesting and/or foraging habitat. Removal of nests would have a direct impact on the bird.

Elanus leucurus (White-tailed Kite)
USFWS Bird of Conservation Concern, California Fully Protected

The white-tailed kite is a medium-sized raptor that occupies low-elevation grassland, agricultural, wetland, oak woodland and oak savanna habitats (Dunk 1995). The species is distributed throughout the coastal foothills and valleys along the entire length of the state, throughout the Central Valley, and into the foothills of the Sierra Nevada (Dunk 1995). The species hunts mostly by flying over open country, pausing frequently to hover and study the ground; on sighting prey, it dives, catching prey in its talons (Kaufman 1996). Nest site is in top of tree, usually 20-50' above ground, sometimes higher or lower depending on available sites. Live-oak often chosen as nest site. Nest (built by both sexes) is a good-sized platform of sticks and twigs, lined with grasses, weeds, and moss. The bird feeds on mostly small rodents that are active by day in open country, particularly voles and house mice (Dunk 1995). Other items in diet, mostly of minor importance, include pocket gophers, harvest mice, rats, shrews, young rabbits, sometimes birds. Rarely may eat snakes, lizards, frogs, large insects (Kaufman 1996)

Although there are no records of white-tailed kites in the CNDDB (CNDDB 2018), there are several sightings recorded in the eBird database within a ten miles of the project location (eBird 2018).

This bird could potentially nest in the oak woodland near the proposed project. Implementation of the project could disturb a nest if it were too close to the development, however it should be noted that no trees are proposed for removal. It might use the grassland habitat as foraging habitat.

Haliaeetus leucocephalus (Bald Eagle)
California Fully Protected, California Endangered, USFWS Bird of Conservation Concern

Bald eagles typically prefer areas near large water bodies such as sea coasts, coastal estuaries and inland lakes and rivers, in many areas, these birds are found within 3 km of a water source. Although their specific habitats may vary depending on their range, habitat selection depends largely on prey availability, the availability of tall trees, and the degree of human disturbance. These birds avoid human recreation areas, bald eagles will even forgo feeding if their foraging area is being disturbed by humans. Although food availability is important to habitat selection, bald eagles will inhabit areas further from foraging grounds to avoid human interaction. Nest are generally located away from human settlements, near water in coniferous trees, but may also be found on deciduous trees, on the ground, on cellular phone towers, on electrical poles, on cliffs and in artificial nesting towers. (Andrews and Mosher, 1982; Brown, et al., 1998; Dickinson, 1991; Millsap, et al., 2004; Saalfeld and Conway, 2010; Sibley, 2003; Stalmaster and Kaiser, 1998)

A single report of bald eagles is present in the CNDDB, a 2015 sighting of a nesting pair at Felt Reservoir in Palo Alto (CNDDB 2018). There are several observations listed within ten miles of the project area in the eBird database, including one less than half mile away, near the San Gregorio River (eBird 2018). None of the sightings in the San Gregorio valley are for breeding pairs.

While bald eagles could be present in the area due to the proximity of San Gregorio River (about 1000 ft.), the proximity of human activity associated with the two nearby houses makes it unlikely that the bird is using the area as nesting habitat. Foraging would also be limited because, while the bird is known to scavenge, the availability of food would be limited. Therefore it is concluded that no impacts will occur to bald eagles due to the proposed project.

Rana draytonii (California Red-legged Frog)
Federal Threatened; CDFW Species of Special Concern.

The California red-legged frog is a large (85-138 mm), nocturnal species that historically occupied much of central and southern California. The species requires still or slow-moving water during the breeding season, where it deposits large egg masses, usually attached to submergent or emergent vegetation. Breeding typically occurs between December and April, depending on annual environmental conditions and locality. Eggs require 6 to 12 days before hatching and metamorphosis occurs 3.5 to 7 months after hatching (Stebbins 2003). Following metamorphosis between July and September, juveniles generally do not travel far from aquatic habitats. Movements of individuals generally begin with the first rains of the weather-year or in response to receding water. Radio-telemetry data indicates that individuals often engage in straight-line movements and sometimes follow riparian corridors, and can move up to two miles (Bulger, et al. 2003; Fellers and Kleeman 2007). California red-legged frogs utilize ephemeral water sources during certain times of the year. They may take refuge in small mammal burrows, leaf litter or other moist areas during periods of inactivity or whenever it is necessary to avoid desiccation (Rathbun, et al. 1993; Jennings and Hayes 1994). Occurrence of this frog has shown to be negatively correlated with presence of introduced bullfrogs (Moyle 1973; Hayes and Jennings 1986, 1988).

California red-legged frogs are listed as "threatened" under the Federal Endangered Species Acts, which provide protections to plants or animals that are at risk of extinction. Listing generally protects a species from "take." Under federal law, "take" is defined as: "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

In 2010, the USFWS designated critical habitat for the species (USFWS 2010). The entire study area falls within the designation. Critical habitat represents areas that USFWS has determined are essential to the conservation of endangered and threatened species (USFWS 2017). Designating critical habitat does not create any sort of sanctuary or refuge, rather it is put in place to guide federal agencies in fulfilling their conservation responsibilities. When an action by a federal agency occurs within a species critical habitat area, the USFWS must determine that the action will not "destroy or adversely modify" the habitat area.

The CNDDB has several records of this species within a ten mile radius of the project location (CNDDB 2018). Of these, one record is within two miles of the project, as noted in Figure 7. This record, from 1995, consists of a breeding population in a pond adjacent to San Gregorio Creek, approximately 0.2 miles downstream from the Harrington Creek confluence. This population is presumed to be extant.

The intermittent creek that runs through the oak woodland has neither pool formation nor emergent vegetation, and so therefore is expected to not support a breeding population of

frogs. However, since the animals have been known to travel as far as two miles from breeding habitat, it is possible that upland habitat areas including Baccharis scrub, coastal scrub, and oak woodland are used as habitat areas. Additionally, California red-legged frogs could be utilizing burrowing mammal holes for habitat as well. Removal of vegetation or mammal burrows would impact the frogs if they are present.

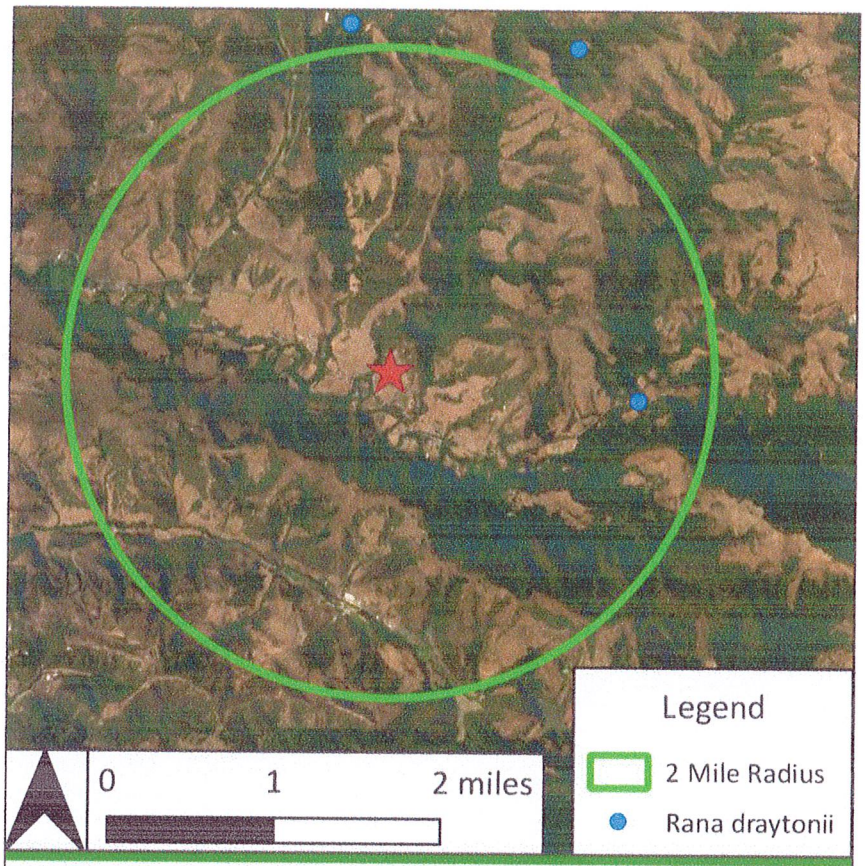


Figure 7: *R. draytonii* within a two Mile Radius (CNDDB 2018)
Verdura Property, San Gregorio, San Mateo County, California (APN: 041-121-03)

Toyon Consultants

Data Source: Google Sattelite, California Natural Diversity Database (Jan 2018)

Summary of Special Status Species Potentially Onsite

Twenty-nine plant species were considered as part of this study. Of these, five were determined to have potential habitat the study area, with no sensitive plants considered to potentially utilize habitat within the project area.

Thirty-five wildlife species were considered as part of this study. Of these, ten were determined to have potential habitat within the study area, with five considered to potentially utilize habitat within the project area. Table 5 summarizes the potential habitat use of the site by these ten species.

Table 5: Summary of Potential Habitat Use by Sensitive Wildlife Species

Species Name	Common Name	Potential Habitat Use
Antrozous pallidus	pallid bat	Roosting in Oak Woodland
Corynorhinus townsendii	Townsend's big-eared bat	Roosting in Oak Woodland
Lasiurus cinereus	hoary bat	Roosting in Oak Woodland
Danaus plexippus	monarch butterfly	Overwintering in Oak Woodland
Neotoma fuscipes annectens	San Francisco dusky-footed woodrat	Present in Oak Woodland
Accipiter cooperii	Cooper's hawk	Oak Woodland as nesting habitat; Non-native Grassland as foraging habitat
Asio otus	long-eared owl	No habitat use expected
Circus cyaneus	northern harrier	Nesting and foraging in Non-native Grassland
Elanus leucurus	white-tailed kite	Oak Woodland as nesting habitat; Non-native Grassland as foraging habitat
Haliaeetus leucocephalus	bald eagle	No habitat use expected
Rana draytonii	California red-legged frog	Potential use of Baccharis Scrub, Coastal Scrub, Oak Woodland, and burrowing mammal holes

IMPACT ANALYSIS

Thresholds of Significance

The thresholds of significance presented in Appendix G of the CEQA Guidelines (CNRA 2017) were used to evaluate project impacts and to determine if implementation of the proposed project would pose significant impacts to biological resources.

For this analysis, significant impacts are those that substantially affect either:

- A species (or its habitat) identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS
- Federally protected wetlands as defined by Section 404 of the Clean Water Act
- Movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede use of native wildlife nursery sites
- Conflict with any local policies or ordinances protecting biological resources, such as a tree
- preservation policy or ordinance
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation plan, or other approved local, regional or state habitat conservation plan.

Regulatory Context

California Coastal Act

The entire study area occurs within the Coastal Zone as defined under the California Coastal Act. Development proposals within the Coastal Zone are required to obtain a Local Development Permit (LDP), and are subject to the policies within the applicable Local Coastal Plan (LCP).

Federal Migratory Bird Act / California Fish and Game Code 3503 and 3515

The Federal Migratory Bird Treaty Act regulates or prohibits taking, killing, and possession of migratory bird species and their nests as listed in Title 50 Code of Federal Regulation (CFR) Section 10.13. Bird species and their nests are also protected under Sections 3515 of the California Fish and Game Code. Members of the orders Falconiformes and Strigiformes (birds-of-prey) are protected under California Fish and game Code Section 3503.

Federal Endangered Species Act

The Federal Endangered Species Acts, which provide protections to plants or animals that are at risk of extinction. Listing generally protects a species from "take." Under federal law, "take" is defined as: "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

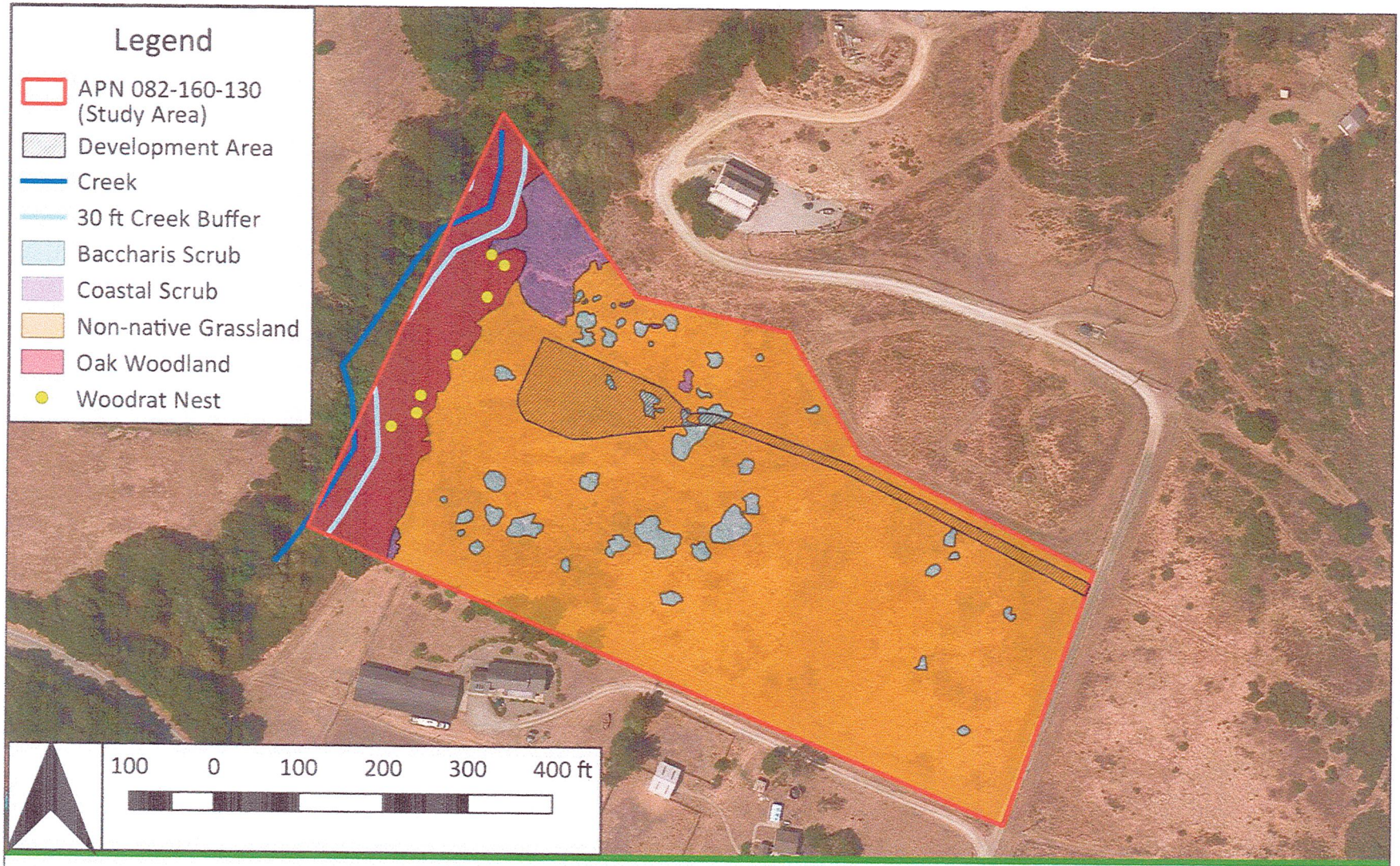


Figure 8: Conceptual Development Plan and 30 ft. Creek Buffer
San Mateo County, California

Data Source: USGS Topography, San Mateo County APN, Toyon Consultants

Toyon Consultants

Habitat Impacts

The anticipated impact area associated with these proposed development is shown in Figure 9. This impact area is based on the conceptual site plan provided in Figure 2 above. Table 6 provides total impact to habitat.

Table 6: Habitat Impact Areas	
Habitat	**Area Impacted (acres)**
Baccharis Scrub	0.03
Non-native Grassland	0.47

Removal of Baccharis scrub habitat areas may be considered significant, as the habitat may be used by California red-legged frogs (See Wildlife Impacts below).

Vegetation Impacts

No impacts are expected to sensitive plant species due to the project. See the discussion under Vegetation in RESULTS above.

Wildlife Impacts

As discussed under Wildlife in RESULTS above, the following species will potentially be impacted by the proposed project.

- *Accipiter cooperii* (Cooper's hawk): impact due to removal of potential foraging habitat
- *Circus cyaneus* (northern harrier): impact due to removal of potential nesting and foraging habitat
- *Elanus leucurus* (white-tailed kite): impact due to removal of potential foraging habitat
- *Rana draytonii* (California red-legged frog): impact due to removal of Baccharis scrub and burrowing mammal holes

Because of the large amount of foraging habitat available both onsite and within the surrounding habitat areas, the removal of 0.47 acres of non-native grassland habitat would not substantially affect *A. cooperii, C. cyaneus,* or *Elanus leucurus*. Therefore this impact is not considered significant.

Removal of non-native grassland has the potential to significantly impact *C. cyaneus* if the bird is nesting within the grassland. Removing nests could be considered a violation of the Migratory Bird Act.

The removal of Baccharis scrub and burrowing mammal holes could impact California red-legged frogs by removing habitat potentially used by the species. Impacts to listed endangered species are considered significant.

Additional birds protected by the Migratory Bird Act but not considered sensitive might utilize either grassland or Baccharis scrub habitat might be impacted if they are nesting in areas where habitat is removed. Destruction of birds' nests protected under the migratory bird act is considered significant.

Intermittent Stream Impacts

Intermittent streams are defined under the LCP as sensitive habitat, and so the creek within the oak woodland would be considered sensitive habitat. No riparian habitat occurs along the stream. The LCP requires that buffer zones be established on creeks. Policy 7.11.b states:

> Where no riparian vegetation exists along both sides of riparian corridors, extend buffer zones 50 feet from the predictable high water point for perennial streams and 30 feet from the midpoint of intermittent streams

Figure 8 shows the location of the 30 ft. riparian buffer within the study area. As indicated, no development impacts are expected buffer zone due to the proposed project.

Summary of Significant Impacts

Table 7 provides a summary of significant impacts identified in this report to sensitive habitats and species. Recommended mitigations to bring these impacts to a less-than-significant level are provided in below.

Table 7: Summary of Significant Impacts

Impacted Element	Significant Impact(s)
Baccharis scrub	Removal of 0.03 acres may impact California red-legged frogs (if present)
C. cyaneus (northern harrier)	Habitat removal could impact nesting birds, if present
Migratory birds	Habitat removal could impact nesting birds protected by the Migratory Bird Act, if present
R. draytonii (California red-legged frog)	Removal of Baccharis scrub and burrowing mammal holes could impact species, if present

PROPOSED MITIGATIONS

The following Mitigation Measures are recommended in order to bring project impacts to a less-than-significant level.

Habitat

BIO-1. In order to mitigate for the loss of 0.03 acres of Baccharis scrub habitat, the applicant shall implement a restoration plan approved by the San Mateo Panning Department that provides for the restoration of 0.09 acres (3,920 sq. ft.) of Baccharis scrub habitat. The restoration area shall be located on the developed parcel, and the restoration plan shall include defined success criteria and a minimum five year mitigation monitoring program with yearly reports submitted to the County of San Mateo.

Wildlife

BIO-2. In order to protect nesting birds, the following measures shall be implemented:

- If grading is scheduled during the active nesting period (March through August), a qualified wildlife biologist shall conduct a pre-construction nesting survey no more than 30 days prior to initiation of grading to provide confirmation on presence or absence of active nests in the vicinity.
- If active nests are encountered, species-specific measures shall be prepared by a qualified biologist and implemented to prevent nest abandonment. At a minimum, grading in the vicinity of the nest shall be deferred until the young birds have fledged. A 100 ft. nest-setback zone shall be established within which all construction-related disturbances shall be prohibited. The perimeter of the nest-setback zone shall be fenced or adequately demarcated, and construction personnel restricted from the area.
- If permanent avoidance of the nest is not feasible, impacts shall be minimized by prohibiting disturbance within the nest-setback zone until a qualified biologist verifies that the birds have either (a) not begun egg laying and incubation, or (b) that the juveniles from the nest are foraging independently and capable of independent survival at an earlier date. A survey report by the qualified biologist verifying that the young have fledged shall be submitted to San Mateo County Planning Department prior to initiation of grading in the nest-setback zone.

BIO-3. In order to protect sensitive wildlife species and avoid "take" of listed endangered species, the following measures shall be implemented:

- A qualified biologist (hereafter, biological monitor) capable of monitoring projects with potential habitat for California red-legged frogs (CRLF) shall be present at the site, prior to any disturbance activities, as follows:
- Prior to and within three (3) days of installation of exclusion fencing, type to be acceptable with the California Department of Fish and Wildlife ("CDFW") and the United States Fish and Wildlife Service ("USFWS), the monitor shall survey the location for the installation for the presence of CRLF. In addition, should any burrows be observed, the burrows shall be inspected by the biologist to determine if any are being used by CRLF. Should CRLF be observed, the area shall be vacated and re-inspected in one week. If no animal use is noted, the burrows shall be carefully excavated using a small trowel or shovel. Careful prodding using a blunt object will aid in determining the course of the tunnel such that the tunnel is excavated from the sides rather than the top, reducing the potential for any injury should an animal be present. Excavated burrows with no CRLF shall be left open so they cannot be reoccupied. If any non-listed species are located, they shall be translocated outside of the construction zone. CRLF be found during the field survey or excavation, the area where that individual has been found shall remain undisturbed. If any life stage of the CRLF is found during these surveys or excavations, the CDFW

and the USFWS shall be contacted immediately, and activities that could result in take shall be postponed until appropriate actions are taken to allow project activities to continue.

- During installation of grading and construction zone exclusion fencing, the biological monitor shall be present and will oversee the installation of all grading and construction fencing. The exclusionary fencing shall be installed on one parcel site first so that if any animals are within the grading and construction zone, they will have the opportunity to move out of the area freely.
- Immediately following installation of exclusion fencing, the biological monitor shall survey the enclosed grading and construction zone for the presence of CRLF. If any life stage of the CRLF is found during these surveys, the CDFW and the USFWS shall be contacted immediately, and activities that could result in take shall be postponed until appropriate actions are taken to allow project activities to continue.
- The biological monitor shall provide a verbal training in both English and Spanish about the animals of concern, their identification, and the methods of avoidance and reporting requirements and procedures, should the species be observed. The training shall be provided to all construction workers onsite, and shall be repeated as needed.
- The biological monitor shall conduct weekly site visits when grading and construction are occurring to verify that all construction zone exclusionary fencing is in place and functioning as intended. Any repair or maintenance to the fencing deemed necessary by the biological monitor shall be completed under the monitor's supervision. Such maintenance activities include adequate removal of vegetation at the construction fence line to ensure that vegetation "ladders" for species access are not allowed to establish.
- Once restoration activities are complete, the exclusion fencing shall be removed under the supervision of the biological monitor. Prior to the removal of the buffer area/restoration area fencing, permanent exclusionary measures shall be put in place to prevent special-status species movement beyond the buffer areas. Wildlife movement through the sites shall be facilitated via a buffer zone on either side of the drainage that bisects the parcels.
- The general contractor shall assign a crew member that will be responsible for conducting site inspections, monitoring gate opening and closing, and assuring that other species protection measures are in place and being enforced when the biological monitor is not present. The crew member shall adhere to the procedures contained in the training document and shall be able to contact the biological monitor should any violations be noted or listed species observed on-site.
- The biological monitor has the authority to halt all or some grading and construction activities and/or modify all or some grading and construction methods as necessary to protect habitat and individual sensitive species. The monitor shall be responsible for contacting USFWS should any endangered or threatened species be observed within the grading and construction zones.
- The biological monitor shall complete daily monitoring reports for each day present, to be maintained in a monitoring logbook kept on-site. Reports must contain the date and time of work, weather conditions, biological monitor's name, construction or project activity and progress performed that day, any listed species observed, any measures taken to repair and/or maintain fencing, and any grading and construction modifications required to protect habitat. The monitoring logbook with compiled reports shall be submitted to the Planning Department upon cessation of construction as part of a construction monitoring report.

CONCLUSION

The proposed project has potentially significant impacts to sensitive habitat and species. Implementation of the proposed mitigations should bring all of those impacts to a less-than-significant level.

LEGAL DISCLAIMER

Because final land use decisions are determined by the appropriate management agencies, Toyon Consultants makes no claims, either explicit or implicit, concerning the final determination of the necessity or adequacy of any actions to be taken as part of the mitigation for this site. While every attempt has been made to identify and mitigate for impacts caused by the proposed project, new observations and changing conditions on the project site may cause changes to the final determination.

The findings presented herein are for information purposes only and do not represent a formal interpretation of State, Federal or County laws or ordinances pertaining to permitting actions within sensitive habitat or endangered species habitat. The interpretation of such laws and/or ordinances is the responsibility of the applicable governing body.

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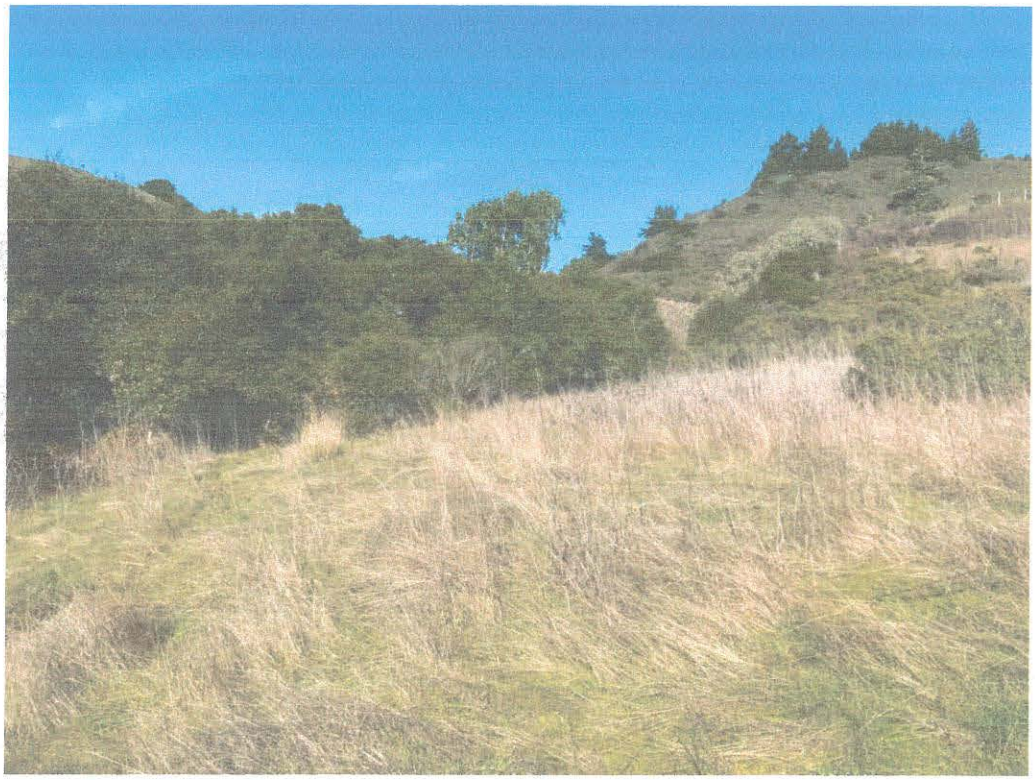
COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT E

PLN2018-00401

Verdura Property
San Gregorio, CA
Habitat Restoration Plan
APN 041-121-03



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January 16, 2019

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INTRODUCTION

Proposed Project and Location

The applicant proposes to build a single family residence and associated infrastructure on an 8 acre parcel on an unnamed private road off of La Honda Rd (California State Highway 84) in an unincorporated section of San Mateo County, CA. Figure 1 provides a map of the project location.

APN: 041-121-03

Purpose of Report

On February 9, 2018, Toyon Consultants submitted to Verdura Construction a *Biotic Assessment* outlining potential impacts and proposed mitigation measures for the proposed project (Toyon Consultants 2018). The *Assessment* identified potentially significant impacts to Baccharis Scrub Habitat found on the property, and proposed the following mitigation measure to bring these impacts to a less than significant level:

> *BIO-1. In order to mitigate for the loss of 0.03 acres of Baccharis scrub habitat, the applicant shall implement a restoration plan approved by the San Mateo Panning Department that provides for the restoration of 0.09 acres (3,920 sq. ft.) of Baccharis scrub habitat. The restoration area shall be located on the developed parcel, and the restoration plan shall include defined success criteria and a minimum five year mitigation monitoring program with yearly reports submitted to the County of San Mateo.* (Toyon Consultants 2018, pg. 38)

The purpose of this report is to provide the Restoration Plan referred to in BIO-1.

All species names in this report are consistent with the *Second Edition Jepson Manual* (Baldwin et al 2012).

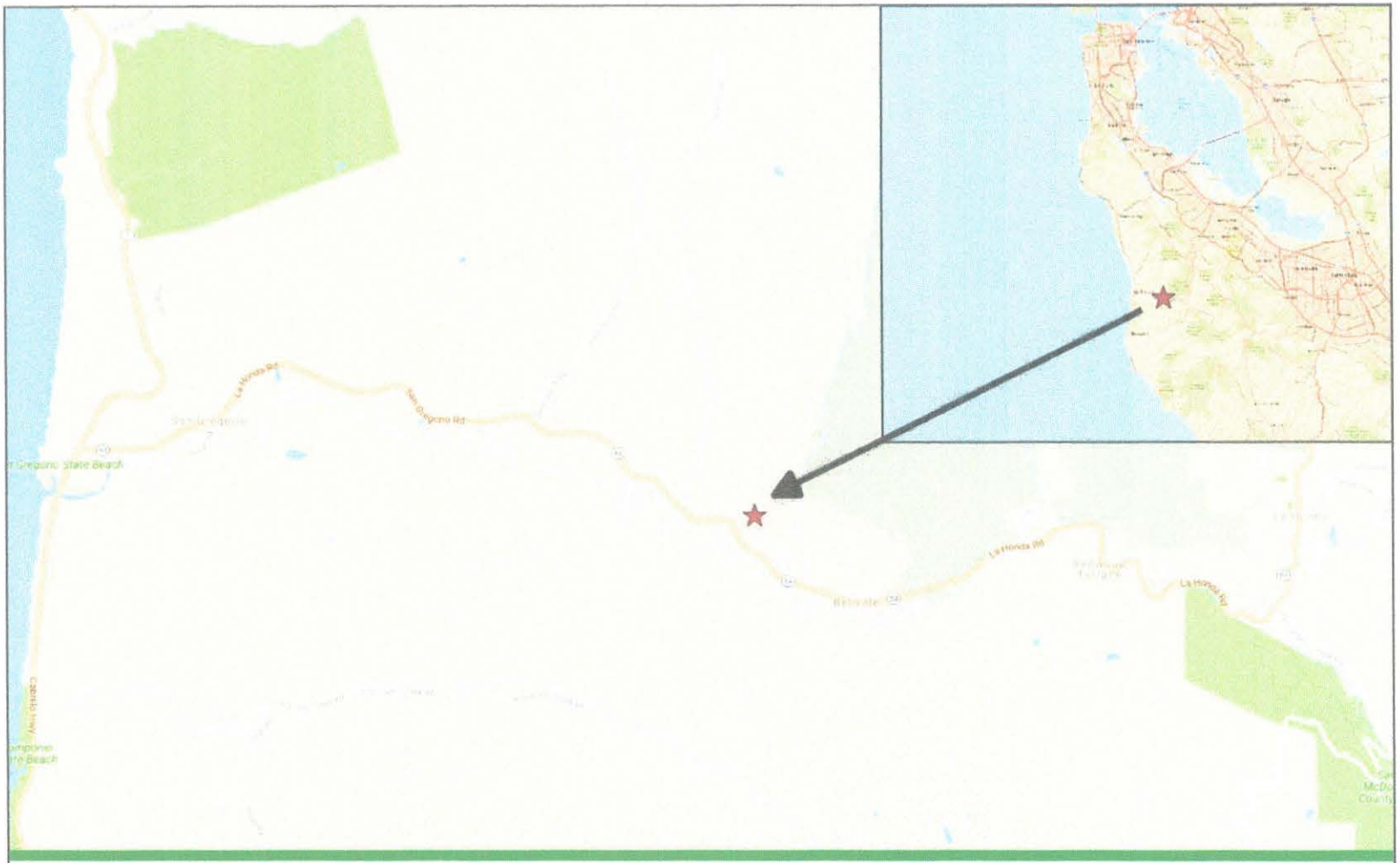

Figure 1: Project Location
San Mateo County, CA, APN 041-121-03

Data Source: ESRI Standard

Toyon Consultants

HABITAT RESTORATION PLAN

Plan Goals and Objectives

The goal of this plan is to provide the Habitat Restoration Plan required by County of San Mateo. It is the intent of this plan that it also be accepted by other agencies that may require a Habitat Restoration Plan.

The objectives are:

- Restore a minimum of 0.09 acres (3,920 sq. ft.) of Baccharis scrub habitat
- Provide measurable performance criteria to ensure project success
- Provide yearly monitoring and reporting requirements

Project Management

The project shall be overseen by a Qualified Restoration Ecologist, as approved by the County of San Mateo.

Adaptive Management

In order to achieve the goals and objectives of this project, management of the restoration areas will be adapted based on the conditions revealed during monitoring. The project Restoration Ecologist shall have the authority to change this plan over the course of implementation as necessary to attain the project success criteria (see MONITORING AND REPORTING below). Any changes to the plan shall be reported in the required reports.

Adaptive strategies that may be implemented under specific conditions are provided below. Adaptive management strategies are not limited to those listed and additional strategies may be required as unforeseen situations arise.

1. High die-off rate of specific plant species
    - Replace non-surviving species with different species
2. Drought conditions
    - Increase watering frequency
3. Die-off due to animal browsing
    - Place browse protection screen around plants

Habitat Restoration Treatment Areas

Figure 2 provides the location of the proposed restoration treatment area as located on the project parcel. The purpose in choosing this location is to add habitat continuity to the existing Coastal Scrub habitat area immediately to the north of the treatment area, as well as to place plants adjacent to the existing riparian habitat area.

The treatment area shown in Figure 2 is, however, conceptual in nature, and so the planting area can be relocated by the project Restoration Ecologist if conditions in the field warrant, so long as the final area restored is 0.09 acres (3,920 sf). In the event that the planting area is changed, this shall be reflected in the *As Built Report* for the project (see MONITORING AND REPORTING below).

Table 1 provides the species to be planted within the restoration treatment area.

Table 1: Plants in Restoration Treatment Areas

Treatment Area	Area to be Planted	Species Name	Common Name
Baccharis Scrub Habitat	0.09 acres (3,920 sf)	*Artemisia californica*	California Sage
		Baccharis pilularis	Coyote Bush
		Mimulus aurantiacus	Sticky Monkey Flower
		Rubus ursinus	California Blackberry

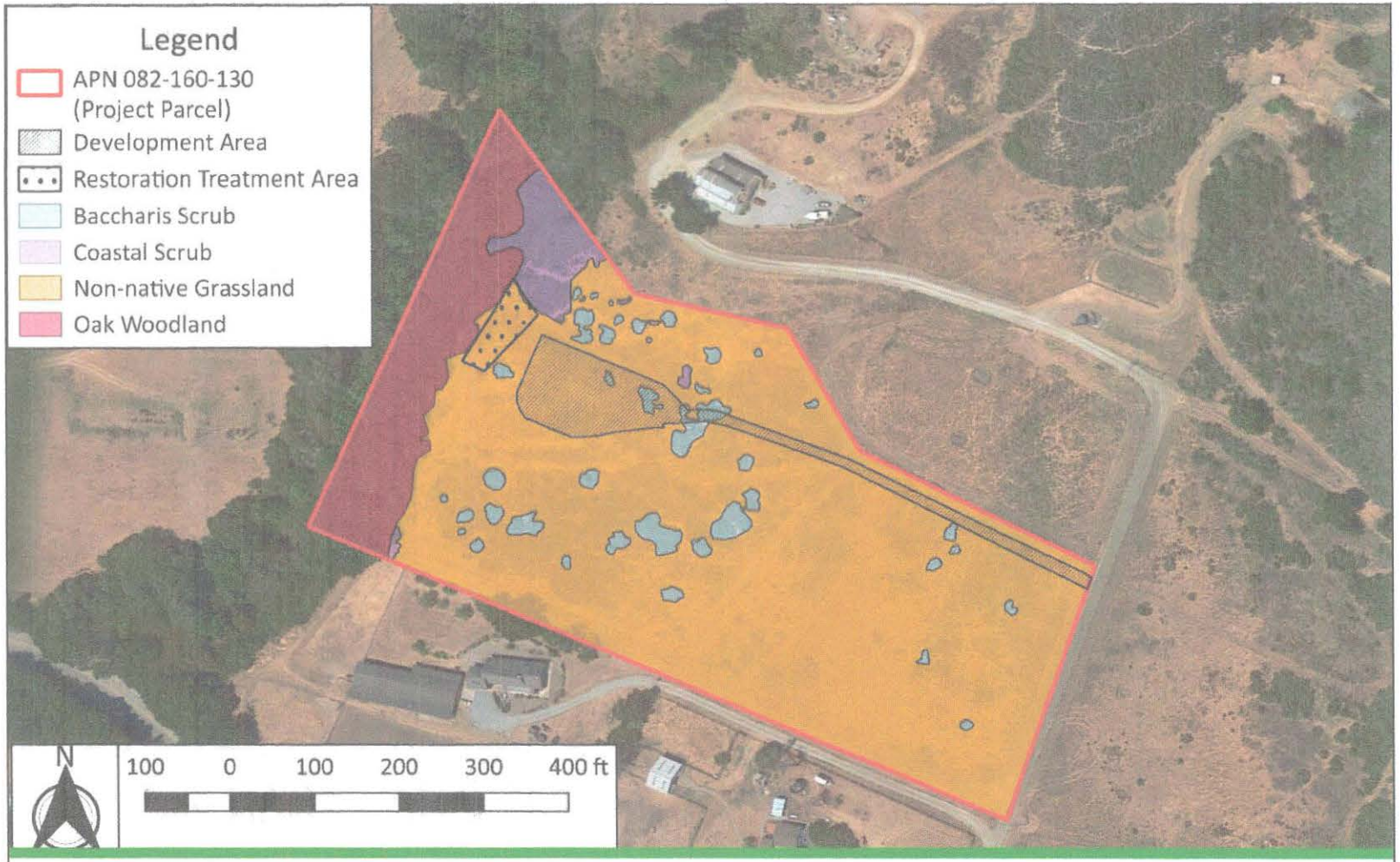

Figure 2: Restoration Treatment Area
San Mateo County, CA, APN 041-121-03

Data Source: San Mateo County APN, Toyon Consultants

Toyon Consultants

Photo 1: Existing Conditions of Restoration Treatment Area (January 4, 2019)

Restoration Planting

Site Specific Propagules

All plant propagules except erosion control seed shall be collected from a local genetic source. All field collected plant propagules shall be obtained according to Best Management Practices (BMP's) that control or eliminate the diseases caused by *Phytopthora ramorum*, as outlined by the California Oak Mortality Task Force[1].

Ideally, propagules shall be collected from the project site itself. However, in the event that this is not possible, material collected from San Mateo County within two miles of the coast and below 1000 ft. elevation shall be considered appropriate genetic material for this project.

Site Preparation

As necessary, soils at the planting locations should be de-compacted so as to allow for good root growth. Typically this is done by digging a planting hole approximately twice the size of the plant container.

Planting Specifications

All container plant materials shall be supplied by a nursery that has implemented Best Management Practices (BMP's) that control or eliminate the diseases caused by *Phytopthora ramorum*, as outlined by the California Oak Mortality Task Force[2].

Restoration areas will be planted with native species, as summarized in Table 2.

In the event that insufficient plant material is obtained for this project, plant and container type substitutions can be made based on the recommendation of the project Restoration Ecologist. Only plant species appropriate for the surrounding habitat area should be planted.

At the discretion of the project Restoration Ecologist, planting greater than the required numbers is allowed in order to attain success criteria so long as the plant spacing does not go below three foot on center (triangular grid layout). Over planting in this way is not a requirement of this plan.

Figure 3 provides a typical planting specification for container plants. Note that while cages and weed mats will increase the likelihood of project success, these items are considered optional on this project.

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[1] http://www.suddenoakdeath.org/wp-content/uploads/2016/04/Restoration.Nsy_.Guidelines.final_.092216.pdf

[2] Ibid.

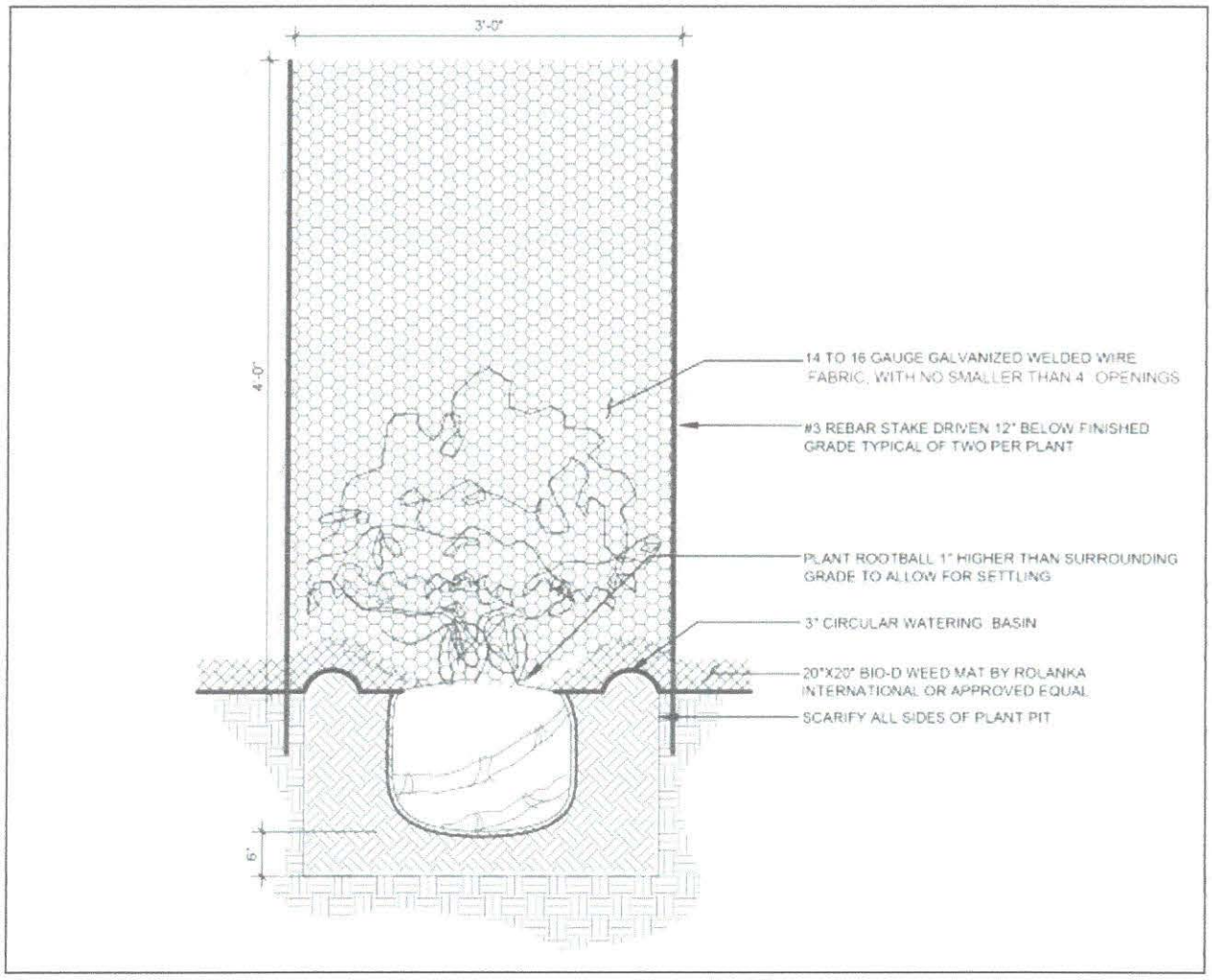

Figure 3: Typical planting specification for restoration planting
Note that cage and weed mat are optional.

Planting Layout

Plants shall be laid out in the field by the project Restoration Ecologist. Layout will avoid a grid pattern in order to mimic a more random, natural distribution of the plants.

Table 2: Restoration Planting Specifications

Species Name	Common Name	Container Type*	OC Spacing**	Total Number
Artemisia californica	California Sage	1 Gallon	7 ft	10
Baccharis pilularis	Coyote Bush	1 Gallon	7 ft	52
Mimulus aurantiacus	Sticky Monkey Flower	Tree Band	7 ft	10
Rubus ursinus	California Blackberry	Tree Band	7 ft	20
TOTAL				**92**

* Container type can be replaced on approval of project Restoration Ecologist

** On Center Spacing using triangular layout

Irrigation

An irrigation system shall be designed and installed by a qualified Landscape Contractor with experience in working on restoration projects. The irrigation system will be temporary, and all parts shall be removed upon cessation of plant irrigation (typically two years).

Each plant shall be watered with 2 gallons per week during the dry season, approximately June through October. The Project Restoration Ecologist may adjust this watering schedule as needed to ensure plant survival. Watering shall be stopped when the Ecologist has determined that a plant is sufficiently established to no longer need additional water – typically two years.

In the event that site considerations make implementation of an irrigation system impractical, an alternative method of watering shall be implemented, such as hand watering, as approved by the Project Restoration Ecologist.

Plant Maintenance

Invasive Exotic Plant Control

A variety of techniques may be used, including hand pulling, weed whipping, cut and paint, and seedling blanching using a propane torch. Spot treatment with a surfactant free glyphosate based herbicide that is registered for use in wetland habitat areas shall be applied by a certified herbicide applicator only as determined necessary by the Project Restoration Ecologist.

Invasive species observed on the site that will be given priority for removal include:

- *Conium maculatum* (Poison Hemlock)
- *Phalaris aquatic* (Harding Grass)
- *Cirsium vulgare* (Bull Thistle)
- *Helminthotheca echioides* (Bristly Ox-tongue)

The Project Biologist may add to this list as necessary in order for the project to attain its performance criteria (see MONITORING AND REPORTING below).

Plant Replacement

Container plants shall be replaced as necessary in order to attain the project performance criteria. All replacement plants shall conform to the specifications provided above.

MONITORING AND REPORTING

The project shall be monitored against defined success criteria for a minimum of five years. A qualified Restoration Ecologist shall perform all monitoring, as approved by the County of San Mateo.

Plant Survivorship Monitoring

All plants that were installed as part of this project will be counted and percent survival shall be determined for each species yearly.

Invasive Exotic Monitoring

Invasive exotic plant cover shall be monitored yearly within the impact areas using the point-intercept line-transect method.

Photo Monitoring

Sufficient photo points will be established to provide coverage of the entire site. Photos shall be taken prior to plant installation, immediately after installation, and at least once per year during the same season, typically at the time when monitoring occurs. Photos shall be included in the yearly report, and an aerial photo shall be included showing the location and orientation of all photo points.

Success Criteria

Quantitative monitoring data will be compared to pre-established success criteria in order to assess project success. These performance criteria are outlined in Table 3 below.

Failure to meet these criteria during the five year monitoring period may require adaptive management and additional restoration activities in order to bring the project metrics in line with the criteria.

Table 3: Restoration Area Performance Criteria, Per Restoration Area

Metric	Success Criteria
Container Plant Survival	Year 1: Minimum 80% Survival Year 2 - 4: Minimum 60% Survival Year 5: Minimum 50% Survival
Invasive Exotic Percent Cover	Year 1-5: < 5% Invasive Exotic Plant Cover

Reporting

Within 30 days of the completion of restoration plan implementation, a *Biological As Built Report* will be submitted to the County of San Mateo Planning Department. This report shall include final maps indicating the restoration and planting areas, along with final numbers of plants installed. Any other changes to this plan approved by the project Restoration Ecologist shall also be included.

By December 31 in each year the project is monitored a *Mitigation Monitoring Report* shall be submitted County of San Mateo Planning Department. This report shall include at a minimum the following information:

- Dates monitoring occurred
- Results of quantitative monitoring, including copies of field data sheets
- Photos from photo monitoring
- Summary of restoration actions taken during the reporting period
- Any changes proposed or implemented in the project as a result of monitoring, including but not limited to:
  - invasive exotic control techniques
  - plant replacement
  - watering schedule
  - monitoring

CONCLUSION

The Habitat Restoration Plan proposed in this report is expected to meet agency requirements for the Restoration Plan required by the proposed project. Specific criteria against which the success can be compared are provided, and success monitoring shall occur for a minimum of five years. It is anticipated that the successful implementation of this plan shall lead to a functional Baccharis scrub habitat area dominated by native plants.

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